

Volume 1-Issue 2  
Spring 1999

# Show Me Agriculture



## TEACHER PAGE

### USING SHOW ME AGRICULTURE

The Missouri Department of Agriculture is pleased to present the second issue of Show Me Agriculture. This publication is designed for use in fourth grade classes in the state of Missouri. Show Me Agriculture provides up-to-date insights about Missouri agriculture, but also provides your students with an occasional look back at agriculture's history. This issue contains discussions of modern Missouri Agriculture but it also takes a look back at the grasshopper plagues that were a problem in our state over 100 years ago. Show Me Agriculture is prepared and classroom tested by Missouri educators and is published quarterly. In this Teacher Page, we have also included the Show Me Standards for each activity. We hope that you will find this issue both useful and unique.

#### Let's Celebrate! Page 1 **GOALS 1.2, 1.8, 2.3, 3.1, 3.3, 3.6, 4.1; SS 4; M 1,6; SCI 8**

National Agriculture Week provides your students with an excellent opportunity to notice the impact that Agriculture has on their lives each and every day. So many of those things that we take for granted come from Agriculture.

You may want to think of a way for your students to understand the \$6,000,000,000 number that represents the value of Missouri's agricultural production. (this figure is rounded). An opportunity is presented to discuss exports and their importance to our economy. Your students will see that about one fourth of Missouri's Agricultural products are exported to countries such as Japan and Mexico.

There may be numerous answers to the food and clothing items that are pictured. For example, most students will say that bread comes from wheat, but allow them to think broadly since there are numerous other ingredients in bread that they might think of. Other illustrations are of butter, which comes from a dairy cow; tennis shoes which are probably leather which probably came from cattle; eggs, which obviously came from chickens; hot dogs, which came from pork, beef, chicken or turkey; and the tee shirt which probably came from cotton.

#### Grasshoppers, Page 2 **GOALS 1.8, 2.3, 3.5, and 4.1; SS 5, 7; M 1, 6; FA 4, 8; HPE 6, CA 1**

Making environmental decisions is usually not as easy as it seems. For example, some are often critical of agriculture's use of pesticides. It is easy to decide that they are all bad, but then it is also interesting what we can learn from history. In this section, we hope that your students will become critical thinkers. On the one hand, we all agree that if pesticides and chemicals are to be used, they must be used carefully. On the other hand, if they, as citizens, decided to pass legislation that would ban the use of pesticides, what might happen? Looking back at the grasshopper plagues might give us a glimpse. The purpose of this activity is to cause students to have to consider some of the very difficult decisions that citizens and farmers have to make. The answer is seldom as easy as it seems.

Here are answers to some questions that your students might ask:

CONTINUED PG 2

What kind of grasshoppers were these? They were Rocky Mountain locusts.  
 Are they still a problem? This species is now extinct  
 Are there still grasshopper plagues? Yes, there are contemporary problems similar to this with desert locusts in Africa.

## Wheat, Pages 4 & 5 **GOALS 1.3, 1.8, 3.3, 3.6, 4.1, 4.2; SS 4; M 1, 6; SCI 8**

Here are answers to the wheat questions:

1. Approximate wheat yields for each county can be obtained from the map.
2. The chart lists the top ten counties
3. Students will check the map
4. Stoddard County produced 1,545,000 more bushels of wheat
5. 1980 – Most wheat
6. 1986 – Least wheat
7. Changes in crop yields occur for many reasons. Students will probably think of weather related answers such as too little water (drought), too much water (floods), hail etc. Insect pests, and plant diseases are other factors that can cause plant yields to decrease. Economics also play an important part – low prices may cause farmers to plant less of the crop.

## Dairy, Page 7 **GOAL 1.5, 1.8, 4.1, 4.7; SS 7; M 1, 3, 6, 8; HPE 2, 6**

A wonderful new children's book is recommended. It is, "The Milkman's Boy", by Donald Hall. Published by Walker and Company, in 1997, this story is about a 1915 family who delivers milk using their horse and wagon. The most intriguing part of this book is its introduction of pasteurization. This book may lead to a good introduction to a discussion about food safety, particularly as it relates to milk.

Answers to the Dairy Questions are:

1. 1994
2. 18,614,000 pounds of ice cream
3. The footnote tells that the data includes both hard and soft ice cream
4. 166,713,000 pounds of cheese
5. 2,840,000,000 pounds of milk were produced in 1993
6. The number of dairy cows has been decreasing.
7. The milk produced per dairy cow has been increasing.

This issue of Show-Me Agriculture is supported by the Missouri Beef Industry Council, the Missouri Soybean Association, the Missouri Dairy Association and the Missouri Department of Agriculture. The publication is developed and written by Dr. Lyndon Irwin and Barbara Irwin, experienced educators and developers of educational materials developers; and reviewed by elementary educators. Design, layout and illustrations ©98 by Carla Steck. Teachers may reproduce any pages for use with their students.

### Summer Credit Courses:

Teachers who are interested in incorporating more Agriculture into the curriculum might be interested in credit courses offered by the Missouri Farm Bureau this summer. One hour graduate credit courses are offered around the state on the following schedule:

June 3 & 4 ..... Cape Girardeau	June 28 & 29 ..... Carthage
June 14 & 15 ..... Jefferson City	July 15 & 16 ..... Kansas City
June 17 & 18 ..... St. Charles	July 29 & 30 ..... Kansas City
June 22 & 23 ..... Kansas City	

The instructors for four of the seven courses are Lyndon and Barbara Irwin, who are the authors of Show Me Agriculture. For information, contact Dr. Irwin at [Ini033f@mail.smsu.edu](mailto:Ini033f@mail.smsu.edu) or contact Diane Olson at Missouri Farm Bureau at 573-893-1414.

Call or write to request the national Ag in the Classroom newsletter "NOTES." It's a great resource to find out what is going on with integrating agriculture into the classroom in all 50 states!  
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**Additional Resources:**  
 Diane Olson  
 Missouri Farm Bureau Federation  
 Ag in the Classroom Program  
 P.O. Box 658  
 Jefferson City, Missouri 65101  
 (573) 893-1400  
 e-mail: [proed@computerland.net](mailto:proed@computerland.net)  
 Call or write for more information on:  
 Credit courses for educators  
 Minigrant program  
 Various resources